



**MAREY**<sup>®</sup>  
HEATER CORP.

**ELECTRIC HEATER ELECTRIC  
INSTANT WATER HEATER  
INSTRUCTION MANUAL**



**ECO MODEL**

Keep this manual with you after your unit has been installed,  
you may need it for further technical information.





Congratulations!

You've just purchased a new Marey ECO tankless water heater and will soon begin to enjoy the benefits of "going tankless."

Take the time to thoroughly read and understand this safety and installation manual in its entirety before you attempt to install your new ECO tankless water heater, as it contains important safety tips and instructions.

Please carefully read all instructions and warnings. Should you have any questions, please visit **www.marey.com** for installation videos and FAQ.

Please keep this manual for future reference and technical information.



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## WARNING

If your water heater requires a reset, be sure to **TURN OFF THE BREAKER** prior to resetting the unit.

Resetting your unit without turning off the breaker can result in personal injury and damage to your water heater.

**WARNING!** There is water contained in the coils of your water heater at all times. If your water heater is exposed to freezing temperatures, the water in the coils could freeze, causing a break in the heat exchanger of the unit, or the supply and return lines. This kind of damage will result in water running freely into the space where the water heater is located, which can cause flooding. **DO NOT** install this water heater where it may be subjected to a freeze. If your water heater is in an area where freezing is a possibility, you must turn off the water to the heater and drain it of any water by disconnecting the water lines. Leave the water lines disconnected until you intend to use the water heater.



## IMPORTANT WARNINGS

This is not a do-it-yourself project. If you are not familiar with basic plumbing and electricity, we strongly recommend that this water heater be installed by a licensed plumber or electrician.

Installation of this product is restricted to indoor locations.

Under no circumstances should you attempt to install, repair or disassemble the Marey Heater tankless electric water heater without first shutting off all power to the unit directly at the circuit breaker panel.



## IMPORTANT SAFETY INFORMATIONS

1. The installation must be in compliance with your local electrical and plumbing codes.
2. This water heater must be **GROUND**ED.
3. All wiring and installation must be supervised by a qualified electrician.
4. **CAUTION:** This product has more than one power-supply connection point. Disconnect all power supplies before servicing.
5. This water heater is not intended for use by persons (including children) with reduced physical, sensory or mental capabilities, or lack of experience or knowledge, unless they have been given supervision or instruction concerning the use of the water heater by a person responsible for their safety. Children should be supervised to ensure that they do not play with the water heater.
6. This water heater **MUST** be permanently connected to a fixed circuit breaker.

7. **DO NOT** install this water heater near volatile or flammable substances, near tinder wood or near a strong magnetic field.

8. **DO NOT** switch the heater on if you suspect that it may be frozen. Wait until you are sure that it has completely thawed out.

9. Before taking a shower, feel the outlet hot water temperature with your hand to make sure it is suitable for showering to avoid getting scalded.

10. Before connecting the water heater hoses to the plumbing in your home, it is extremely important to **FLUSH** the lines to wash out any plumbing paste or residue in the lines.

11. The heating chamber is treated with composite nano-insulation material. It is normal for there to be a slight odor and possibly a small amount of green/blue smoke when the unit is used for the first time.

12. If there is damage to the wiring or any internal part, you must contact a qualified electrician to replace it, or send it to one of our service centers for repair. Replacement parts are available from Marey.

13. The shower head should be cleaned and checked periodically for debris and build-up.

14. This water heater must be installed vertically, per the mounting instructions.

15. **CAUTION: FOR HOUSEHOLD AND INDOOR USE ONLY**



## PRODUCT FEATURES

1. Energy efficient, instantaneous heating on demand. It's tankless, so no pre-heating and no stand-by heat loss, which saves even more energy.
2. Micro-computer controlled, patented heating technology.
3. Extremely safe! Water is completely separated from electricity by multi-layers of composite nano-insulation material, and the heater contains multiple additional safety devices, as outlined below.
4. Over-heating thermal cut-off to avoid scalds. When the outlet water temperature reaches 153°F / 67°C, the electricity is automatically cut off. If this occurs, the screen beeps and displays an E1 code.
5. Malfunction sensor. If there is a malfunction with the temperature sensor, the heater stops working and the screen displays an E3 code.



6. Dry-heating thermal cut-off. In case of dry heating, the electricity will be cut off and the screen display will display an E4 code.

7. Micro-computer features an automatic electricity and water consumption calculating function.

8. Reads temperature in both Fahrenheit and Celsius.

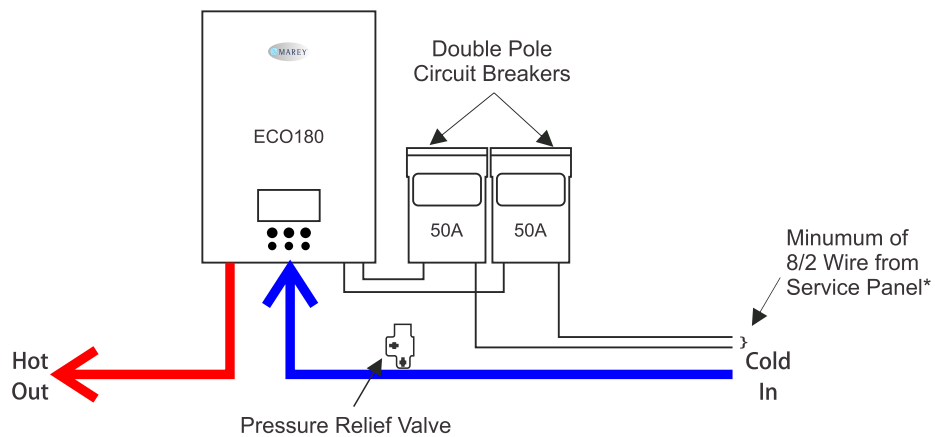
## PRODUCT ADVANTAGES



Fig. 01

Marey heating element is made from a single piece of cast aluminum, so there will never be water leakage nor the electric leakage in the heating chamber. Marey also have an extra stainless steel water flow channel instead of the old aluminum, so no matter how is your water quality inside the heating element, the heat element will service a long life.

## INSTALLATION DIAGRAM



Wire gage varies by amperage and distance.  
Contact your electrician if you're not sure.

Fig. 02

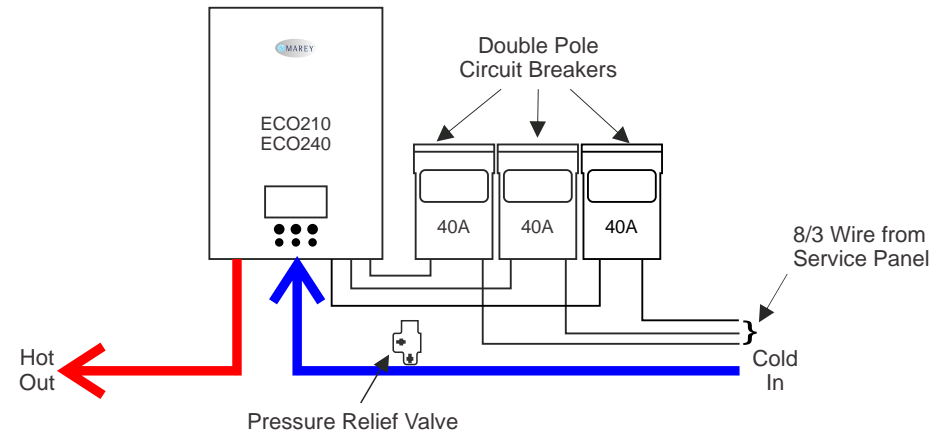


Fig. 03

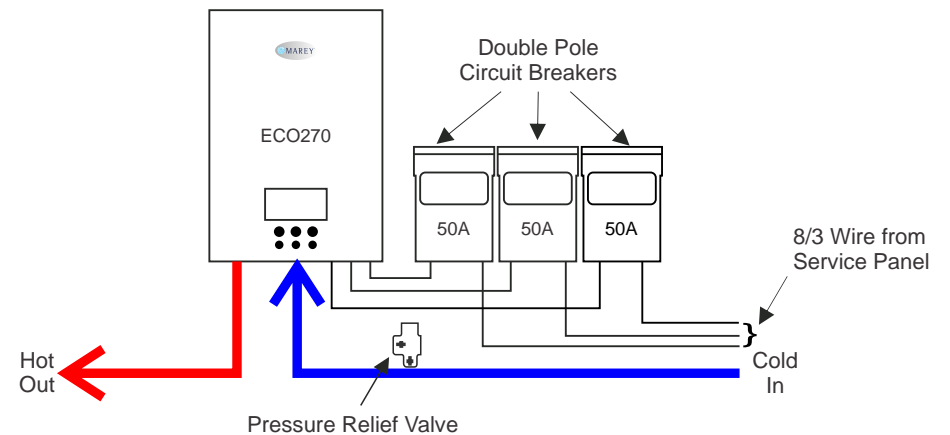


Fig. 04



## TECHNICAL SPECIFICATIONS AND INSTALLATION REQUIREMENTS

TECHNICAL SPECIFICATIONS	ECO210	ECO210	ECO240	ECO270
Power	18kW	21kW	24kW	27kW
Min. Required Circuit Breaker Size	2x50A	3x40A	3x40A	3x50A
Max. Amperage Load	75A	88A	100A	112.5A
Max. Temp. Increase at 1.5 GPM	80°F	80°F	80°F	80°F
Recommended Wire Size	2x8	3x8 AWG copper		
Voltage	240V			
Frequency	60Hz			
Min. Water Flow to Activate the Unit	0.85 GPM			
Temp. Scope	86~127°F			
Water Connections	3/4" NPT			
Installation	Vertical Mounted			
Control	Manual			
Width x Height x Depth	11" x 16.1" x 3,5"			
Weight	16.4 lbs			

TEMPERATURE INCREASE PER GPM					
GPM	TEMP. INCREASE	ECO180	ECO210	ECO240	ECO270
	1.0	87°	87°	87°	87°
	1.5	80°	80°	80°	80°
	2.0	74°	76°	72°	76°
	2.5	56°	71°	67°	72°
	3.0	46°	60°	59°	67°
	3.5	42°	51°	51°	59°
	4.0	36°	45°	45°	51°
	4.5	31°	40°	43°	48°
	5.0	29°	38°	42°	45°
	5.5	---	34°	40°	43°
	6.0	---	---	38°	42°
	6.5	---	---	---	38°

\*Temperature increases listed are based on use of the water heater under optimal conditions with an incoming water temperature of 48°F. Variable factors such as incorrect or imperfect installation or warmer incoming water temperature may yield different results.



## PRODUCT INNER STRUCTURE

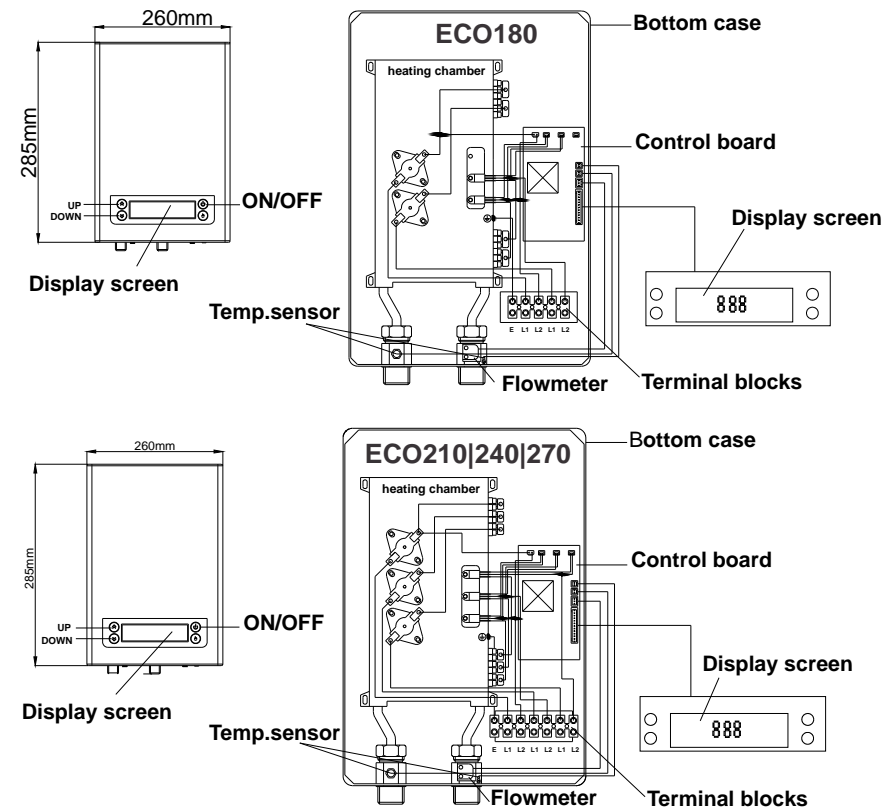


Fig. 05

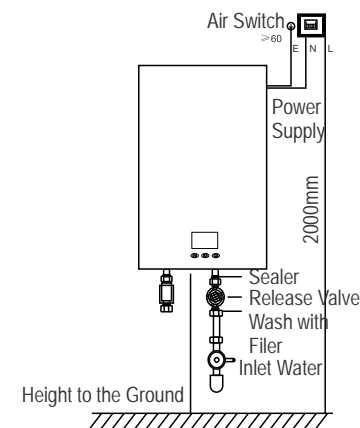


Fig. 06



## INSTALLATION GUIDELINE

**NOTE:** Installation must be in compliance with the National Electrical Code and your local electrical and plumbing codes.

1. Do not install the unit in a room where there is a chance of freezing.
2. DO NOT install this water heater near tinder, volatile or flammable substances, or near a strong magnetic field. The unit must only be mounted in a VERTICAL position near the water fittings.
3. Mount the unit to a flat section of wall, well away from any potential water splashes or spray. Be sure to use wall anchors, or screw directly into studs.
4. Position the unit upright with all plumbing connections at the bottom of the unit.
5. Make sure the water heater and all fittings are complete and intact.
6. Make sure that the main power supply, water pressure, ground, amperage, voltage, and wiring meet all standards.
7. The water heater must be connected to a properly-grounded, dedicated branch circuit with the proper voltage rating. The ground must be connected to the "ground" at the circuit breaker panel.
8. This water heater MUST be permanently connected to a fixed and dedicated circuit breaker. If the heater will be unused, switch off the circuit breaker.

### INSTALLATION

Locate an appropriate place on a section of wall that meets all safety and installation requirements.

Front and back of the appliance (please see Fig. 07).

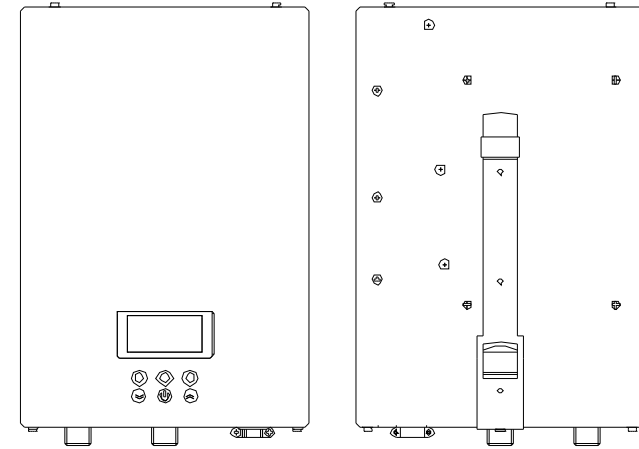


Fig. 07

Remove the screw which fixes the bracket on the back of the appliance (Fig. 07).



Fig. 08

Remove the bracket from the appliance (Fig. 09).

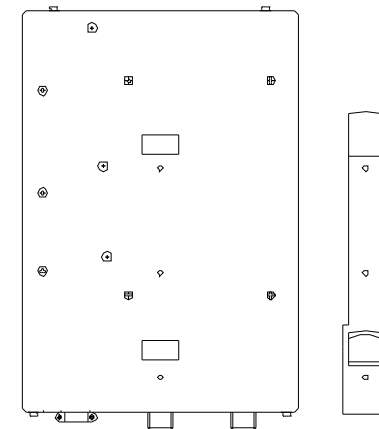


Fig. 09

Hold the back bracket hanger in position against the wall in the desired hanging location. Check to make sure that the bracket is level. Mark the wall where the mounting holes should be located. Drill holes of  $\frac{1}{4}$ " diameter in the marked locations. If you are on a stud, screw the bracket directly into the wall. If you are not on a stud, insert the plastic anchor in the hole, and secure the bracket using the screws supplied (Fig. 10).

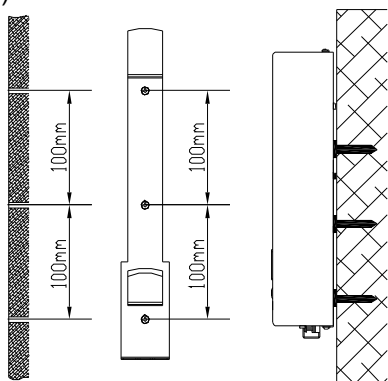


Fig. 10

Remove (4) screws and washers (Fig 11) from the unit to free the front cover. Carefully lift the front cover off the unit a few inches. Disengage the plug connecting the front cover LCD panel to the body of the unit (Fig 12). Remove the cover completely.

Please note: If LCD connection cable cannot be disengaged, simply set the front cover aside and keep the cable connected.

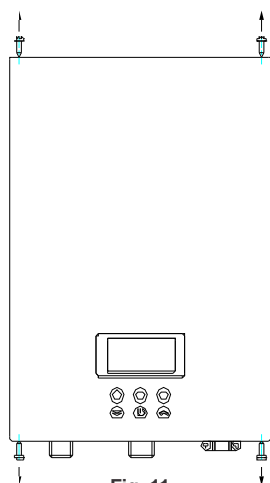


Fig. 11

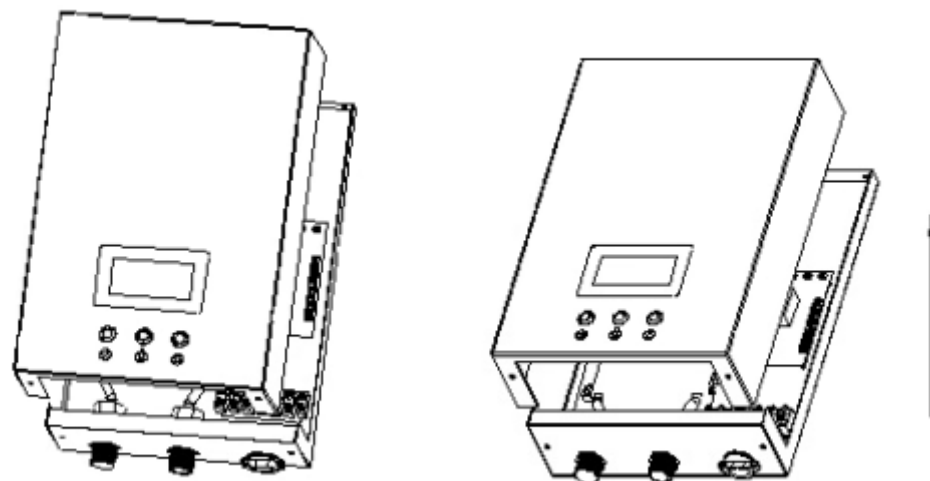


Fig. 12

Fix the appliance to the hanging bracket. Make sure the unit is properly secured to the bracket (See Fig. 13).

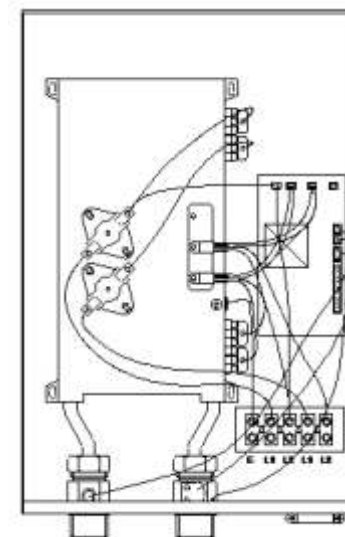


Fig. 13

Connect the power cable at the lower right side of the unit to the terminal block. Each wire in the cable is labeled to correspond with spaces in the terminal block. Make sure that you plug the appropriately labeled wire into the corresponding space on the terminal block. Note that the unit will be connected to three circuit breakers (Fig. 14).

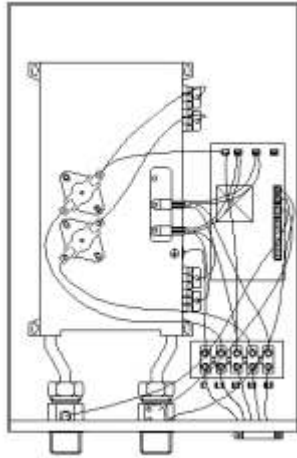


Fig. 14

#### Important Notes About Electrical Connections:

1. Before beginning any work on the electric installation, be sure that the main breaker panel switch is OFF to avoid any danger of electric shock. All mounting and plumbing must be completed before proceeding with the electrical installation.
2. All electrical work must comply with national and applicable state and local electrical codes.
3. All units must be connected to a properly grounded dedicated branch circuit of proper voltage rating.
4. ECO180: requires two independent circuits. Use two supply cables protected by two separate double pole breakers. ECO210|240|270: require three independent circuit breakers. Use three insulated wires for the three separate double-pole breakers.
5. When connecting the wires to the terminal blocks, make sure the metal wire ends and the terminal blocks completely touch. Then, tighten the screws securely. Failure to properly tighten can result in current escape and burning of the terminal blocks.

Reattach the cable for the LCD panel if disconnected and reinstall the front cover using the screws and washers previously removed. (Fig. 14).

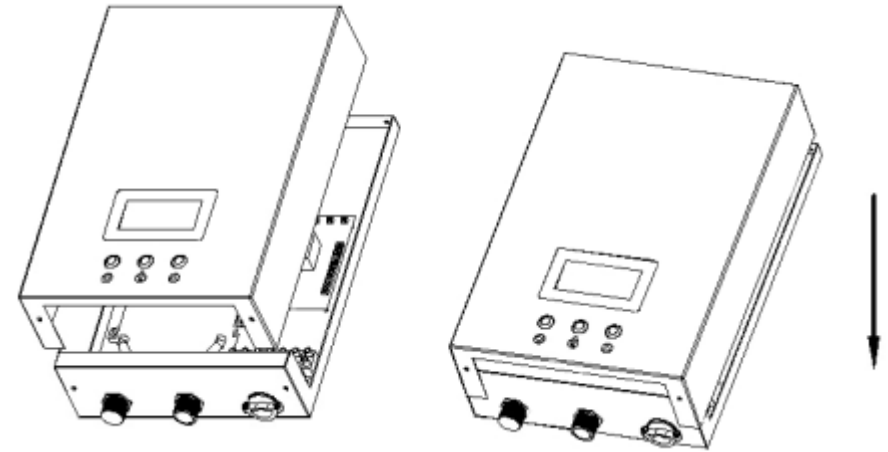


Fig. 15

Connect the cold water supply to the threaded pipe labeled “inlet” and the hot water to the threaded pipe labeled “outlet.” IMPORTANT: RUBBER WASHER MUST BE USED FOR PROPER SEAL. (Fig. 16) Connections are 3/4” NPT.

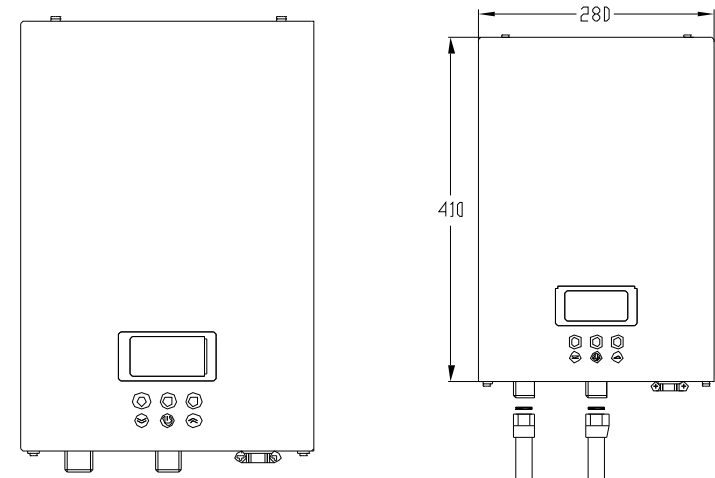


Fig. 16



### Important Notes About Water Connections:

1. All water pipe must comply with national and applicable state and local water pipe codes.
2. The unit should be connected directly to the main water supply. Flush pipe with water to remove any debris or loose particles.
3. All connections to the unit should be  $\frac{3}{4}$ " NPT. Larger pipe can be connected but the appropriate adapters must be used.
4. Please remember to install rubber seal rings at the connections. When all water connections are completed, check for leaks and take corrective action before proceeding.

### How the Unit works

1. This unit heats water instantaneously as it flows through the heating elements.
2. The electronic control monitors the flow rate and the incoming water temperature and then switches on the required number of heating elements to reach the set temperature.
3. The outlet water temperature will be higher than the setting if the minimum flow rate isn't met. The outlet water temperature will be lower than the setting if the maximum flow rate is exceeded.

### Using the Water Heater - Operation Instructions

1. Turn on the water and allow it to run through the unit for a few minutes, until water flow is continuous and all air is purged from the water pipes. Check for and correct any leaking connections.
2. Turn on the circuit breaker to connect power to the unit.
3. Press ON/OFF to start the unit.

If there is power to the unit, but no digital display, turn off the circuit breaker. Double check to make sure that the cable to the LCD panel on the front cover is correctly connected inside the unit, then turn the breaker back on.

4. After the unit is supplied with power, a beep sound can be heard and an LED lights up for 2 seconds. If no other function is turned on, the unit stands by in this mode.


5. Press "ON/OFF" to start or stop the unit. When the unit is ON, the LED display shows the actual water temperature of the outlet water. After 5 seconds, the screen switches to a screen saver to conserve power. The display screen light will be off. If you touch the screen, it will light up again.

6. The outlet water temperature can be adjusted by changing the temperature settings on the heater. Press ▲ and ▼ to adjust the temperature. The range of options for the temperature setting is 30°C-52°C/86°F-125°F.

**WARNING:** If the unit has been used recently, you may initially get a short burst of very hot water from the unit. Allow a few seconds for the water to cool down to the set point. Test the water before you take a shower.

If the unit will not be used during winter, drain out any water completely so that the heater will not freeze.

Periodically clean the inlet filter screen and the shower head to maintain strong water flow.

7. Press  then press ▼ to convert the temperature display between Fahrenheit and Celsius.

8. The unit features an automatic memory function to avoid repetitive operation. When you turn on the water heater, the default set point will be the same as the last setting used.



## TROUBLE-SHOOTING / DIAGNOSTIC CHART

Problems	Possible Causes	Corrective Actions
1. Inlet and outlet fittings leaking	A. Fittings not tight B. Rubber washer worn-out	A. Tighten fittings. B. Change rubber washer.
2. LED no signal	A. Power not connected. B. LCD damaged. C. LCD not connected to PCB.	A. Connect power to the unit. B. Change LCD. C. Connect LCD to the PCB Board.
3. Functional keys not working	A. No water out from shower. B. Water pressure too low. C. Key or PCB damaged.	A. Open valve to get water. B. Open valve to get pressure. C. Change key or PCB.
4. Water too hot	A. Too high temperature set. B. Water flow too small.	A. Set a lower temperature. B. Open valve bigger.
5. Water too cold	A. Low temperature set. B. Water flow too much.	A. Set a higher temperature. B. Reduce water flow.
6. Outlet gets water smaller and smaller.	Inlet strainer or shower clogged.	Clean strainer and shower.
7. LED displays E1	Outlet temperature is over 67°F/153°F.	A. Reduce the temperature. B. Turn up the water flow.
8. LED displays E3	Temperature sensor failure.	Please contact with the local dealer.
9. LED displays E4	Dry Heating.	Shut off. Clean all outlets from any debris, dirt, any particle or scale inside the pipe.
10. Pressure relief valve releases water	A. Outlet blocked. B. Inlet pressure over 0.7Mpa.	A. Clean shower set. B. Reduce water pressure.
11. Display overload	Inlet water flow is too big.	Reduce the inlet water flow.

**WARNING:** Corrections to problems 8, 9 and 10 should only be performed by qualified electrician. The person who initially installed the unit is the best one to contact for help, or contact Marey for service.

### NORMAL MAINTENANCE

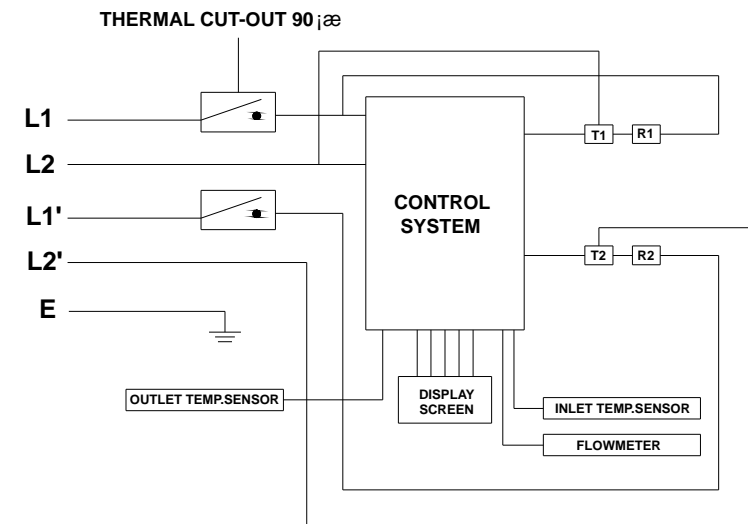
**Note:** Do not attempt to repair this water heater yourself. Call a service person for assistance. Always turn off the breaker before working on the unit.

To ensure consistent water flow, the following is recommended:

1. Periodically remove build-up and dirt that may accumulate at the aerator of the faucet or in the shower head.
2. Periodically clean the built-in filter screen at the inlet connection on the water heater. Water faucet must be turned off before cleaning the screen.

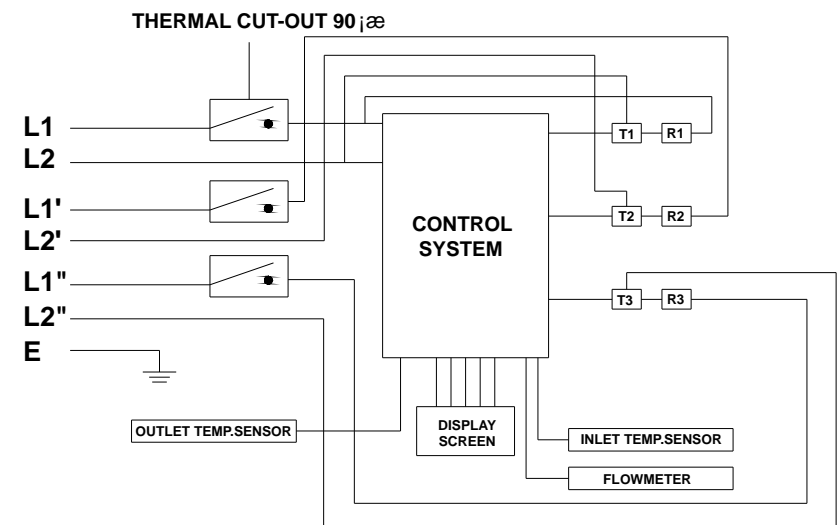


## ELECTRICAL DIAGRAM



**REMARK: L: LINE R:HEATING SYSTEM T:TRIAC**

Fig. 17



**REMARK: L: LINE R:HEATING SYSTEM T:TRIAC**

Fig. 18



## CUSTOMER SERVICE

At Marey, we pride ourselves on the excellence of our customer service and support team.

Please feel free to contact us if you have any questions about our products, warranty service, or if you need assistance installing a unit. We also strive for continuous improvement, so we welcome your comments, feedback and suggestions.



**1-855-MAREY-55**  
**customerservice@marey.com**



## OTHER PRODUCTS

Please visit our website to get to know more about other Marey products.



**ECO110**



**POWER PAK**



**SANTON**



**AQUAMATIC**



**GAS PORTABLE**



**POWER GAS**

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